

31. *CUCUMIS MELO* LINN. IN PUNJAB — A TAXONOMIC REAPPRAISAL

In this paper a key and pertinent synonymy are provided for separation of various infraspecific taxa of *Cucumis melo* Linn. available in Punjab. Besides, the correct nomenclature of snake or serpent melon is also indicated.

INTRODUCTION

Cucumis melo Linn. with polymorphous fruits is often cultivated throughout the plains of India, chiefly on the sandy beds or margins of rivers, for the sake of its fruits. The fruits are edible and used unripe and ripe as salad, vegetable and table fruits besides being an important ingredient of an extensively sold seasonal spicy preparation locally called in north-west India as 'Chat'. This species has received divergent treatments in Indian taxonomic literature. The fruits being very large and fleshy are not preserved on the herbarium sheets except sometimes in very young stages. This, probably, has resulted in the varied circumscription of different taxa included under *Cucumis melo*. An attempt has been made here to clear the taxonomy of various constituents of this species as found in Punjab. The conclusions are based mainly on the field observations of various forms supplemented by the study of herbarium material.

OBSERVATIONS IN LITERATURE

The taxon *C. melo* has received divergent treatments taxonomically. As indicated clearly by notes, local names and synonymy; Haines (1961), Prain (1963) and Tutin (in Tutin *et al.* 1968) treat *C. melo* as a Compositae taxon including several varieties distinguished by other taxonomists. Chakravarty (1959), while retaining var. *agrestis* includes all other varieties under var. *culta*. Somewhat similar view

has been followed by Babu (1977) but with the difference that instead of var. *culta* he recognized var. *melo* with 5-100 cm long fruits and embracing all other varieties except var. *agrestis* which is kept distinct. Rau (1969) considers var. *melo* and var. *agrestis* as distinct and merges the other forms under var. *culta*. Sharma & Bir (1978) have kept var. *melo* separate from other forms which are put together under var. *culta*. Babu (1977) supports Gamble's (1957) treatment of considering *C. melo* var. *agrestis* as a distinct species under the name *C. pubescens* Willd. Duthie (1960) also treated *C. melo* var. *agrestis* as *C. pubescens* and retained other varieties under *C. melo*.

PRESENT OBSERVATIONS AND CONCLUSIONS

An extensive and intensive field study of various types in Punjab during the last two decades has shown that the different taxa discussed here under *Cucumis melo* Linn. are annuals with yellow flowers. These are either cultivated or are found as self sown or sometimes may become escape. Only one type (var. *agrestis*) is truly feral. The fruits are commonly sold in the local markets and the wild form is plentiful in waste places and fallow and agricultural fields. In all, four distinct varieties are easily recognizable. All of these should be treated as distinct and not merged under var. *melo* or var. *culta* as has earlier been done by different authors.

A perusal of taxonomic literature has shown

that no clear cut 'key' has been provided for the discrimination of these taxa. Presumably this is due to the different alignment of various forms under different names or because some authors consider all forms constituting a single taxon. Hence to fill in this lacuna; a 'key', base on discernible macroscopic features, is given below for the convenient segregation of the four varieties found in Punjab:

1. Plant slender, truly wild; leaves 2.5-9 cm across; corolla 0.5-1 cm long; fruits 2.5-3.5 cm long var. *agrestis*
1. Plants robust, cultivated, occasionally escape but never truly wild; leaves larger, corolla 1-1.5 cm long; fruits 5-100 cm long
 2. Ripe fruits bursting spontaneously var. *momordica*
 2. Ripe fruit otherwise (i.e. not bursting)
 3. Fruit at the most about 1½ times longer than broad, without corduroy-like ridges var. *melo*
 3. Fruits normally several times longer than broad, with corduroy-like ridges var. *flexuosus*

Nomenclatural citations and pertinent literature and synonymy with special reference to the important Indian floristic works of these varieties along with some noteworthy annotations are as follows:

C. melo Linn. var. *agrestis* Naud. Ann. Sci. Nat. Par. ser. 4.II.73. 1859; *ibid.* 12: 110. 1859; Chakravarty, Rec. bot. Surv. Ind. 17 (1): 103. 1959; Sant. *ibid.* ed. 3. 16(1): 103. 1967; Babu, Herb. Fl. Dehra Dun 195. 1977. *C. pubescens* Willd. Sp. Pl. 4: 614. 1805; Gamble, Fl. Pres. Madras 1: 378. 1957, repr. ed.; Duthie, Fl. Upp. Gang. Pl. 1: 341. 1960, repr. ed.

Chakravarty (loc. cit.) distinguishes var. *agrestis* from var. *culta* Royle, *inter alia*, in the fact that the fruits are inedible in the former and edible in latter. However, the native people of Punjab not only eat the immature

and mature fruits but also appreciate them with apparent relish. I have myself tasted the fruits on several occasions during the course of botanizing and found these very juicy. In the absence of water, the fruits are indeed refreshing for a thirsty person in the field. Occasionally, however, the fruits are bitter. After the rainy season, the fruits can be seen lying on the ground and attached to the plant long after the death of vegetative parts. In the herbarium specimens, it is not uncommon to see only one male flower in the leaf-axil but in the living state the flowers are in clusters of 2-3, the largest of which is on a clear pedicel.

Local name: Chibbar, Meki, Takmak

English name: Small gourd

Flowers & Fruits: May-November.

C. melo Linn. var. *momordica* (Roxb.) Duthie & Fuller, Field & Gard. Crops 2: 50. t. 49. 1883; Duthie, Fl. Upp. Gang. Pl. 1: 342. 1960, repr. ed.; Maheshwari, Fl. Delhi 170. 1963; Nair, Rec. bot. Surv. Ind. 21(1): 117. 1978; Bhandari, Fl. Ind. Desert 168. 1978. *C. momordica* Roxb. Fl. Ind. (ed. Carey) 3: 720. 1832.

Local names: Kachra, Phunt, Phutt, Phutt Khira.

English name: Snap melon.

Flowers & Fruits: June-September.

C. melo Linn. Sp. Pl. 1011. 1753, var. *melo* Duthie, Fl. Upp. Gang. Pl. 1: 340. 1960, repr. ed.; Maheshwari, Fl. Delhi 169. 1963; Nair, Rec. bot. Surv. Ind. 21(1): 117. 1978.

Local name: Kharbuza.

English name: Musk melon.

Flowers & Fruits: April-September.

C. melo Linn. var. *flexuosus* (Linn.) Naud. Ann. Sci. Nat. ser. 4.ii.34. 1859; Bailey, Man. Cult. Pl. 955. 1949. *C. flexuosus* Linn. Sp. Pl. ed. 2: 1437. 1763. *C. melo* Linn. var. *utilissimus* (Roxb.) Duthie & Fuller,

MISCELLANEOUS NOTES

Field & Gard. Crops 2: 55. *tt.* 53, 54. 1883; Duthie, Fl. Upp. Gang. Pl. 1: 341. 1960, repr. ed.; Maheshwari, Fl. Delhi 170. 1963; Nair, Rec. bot. Surv. Ind. 21(1): 117. 1978. *C. utilissimus* Roxb. Fl. Ind. (ed. Carey) 3: 721. 1832.

Hitherto, in Indian literature this long, snake-like melon has been recorded under the name of *C. melo* Linn. var. *utilissimus* Duthie & Fuller. But as will be clear from the synonymy cited above, it should bear the correct name *C. melo* var. *flexuosus* in accordance with Art. 11 of International Code of Botanical Nomenclature.

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Local names: Kakri, Tar.

English names: Snake melon, Serpent melon.
Flowers & Fruits: April-September.

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REFERENCES

- BABU, C. R. (1977): Herbaceous Flora of Dehra Dun. New Delhi.
- BAILEY, L. H. (1949): Manual of cultivated plants. Ed. 2. New York.
- BHANDARI, M. M. (1978): Flora of the Indian desert. Jodhpur.
- CHAKRAVARTY, H. L. (1959): Monograph on Indian Cucurbitaceae. *Rec. bot. Surv. Ind.* 17(1): 1-234.
- DUTHIE, J. F. (1960): Flora of the upper Gangetic Plain and of the adjacent Siwalik and Sub-Himalayan tracts. Repr. ed. Vol. 1. Calcutta.
- & FULLER, J. B. (1883): Field and garden crops of the North-Western Provinces and Oudh. 2nd part. Roorkee.
- GAMBLE, J. S. (1957): Flora of the Presidency of Madras. repr. ed. Vol. 1. Calcutta.
- HAINES, H. H. (1961): Botany of Bihar and Orissa. Repr. ed. Vol. 2. Calcutta.
- MAHESHWARI, J. K. (1963): The Flora of Delhi. New Delhi.
- NAIR, N. C. (1978): Flora of the Punjab Plains. *Rec. bot. Surv. Ind.* 21(1): i-xx, 1-326.
- PRAIN, D. (1963): Bengal Plants. Repr. ed. Vol. I. Calcutta.
- RAU, M. A. (1969): Flora of the upper Gangetic Plain and of the adjacent Siwalik and Sub-Himalayan tracts. Check List. *Bull. bot. Surv. Ind.* 10 (Suppl. 2): 1-87.
- ROXBURGH, W. (1832): Flora Indica (Ed. W. Carey). Vol. 3. Serampore.
- SHARMA, M. & BIR, S. S. (1978): Flora of Patiala. Patiala.
- TUTIN, T. G. *et al.* (1968): Flora Europaea Vol. 2. Cambridge.